THE DENTAL PRACTITIONER

a monthly journal for the Practitioner and his Staff

VOL. III, NO. 5 JANUARY, 1953

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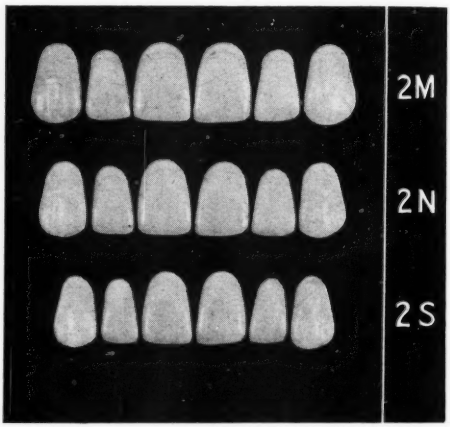

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A Monthly Journal for the Practitioner and his Staff

(Incorporating the Proceedings of the British Society of Periodontology and the Official Supplement of the S.I.M.A.—Dental Laboratories Section)

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References to dental literature should be recorded in the text, with the name of the author and the year of publication in parentheses. In the bibliography they should be arranged in alphabetical order in the following form, the abbreviations of periodicals being those adopted in the *World List of Scientific Periodicals*, e.g. :—

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THE DENTAL PRACTITIONER

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Vol. III, No. 5 January, 1953

EDITORIAL

FILLING MATERIALS

WITH the authorization by the Ministry of of Health of the self-polymerizing acrylics, another filling material takes its place in general dentistry in this country. The material is not really new but its use until now has been restricted. It is not by any means the perfect filling material, but it represents a step forward. In this modern age of chemistry and physics it is a surprising fact that so few new materials have been made available as filling material in dentistry. Apart from the silicate based material there have been hardly any other materials produced during this century. This very fact shows the difficulty of producing a substance that has to abide by such high standards, mechanical, biological, and æsthetical. The main materials in use are gold, porcelain, amalgam, and the silicate cements. Of these the amalgam and the silicates are by far the commonest. The self-polymerizing acrylics will, it is felt, tend to replace the silicates. It is unlikely that they will ever replace metallic fillings, as even in its most futuristic form (many varieties are sure to be produced) it will still have certain inherent disadvantages. The question of restoring a tooth æsthetically is still a problem when the mechanical and biological factors are assessed. The main advantage of acrylic and silicate is their æsthetic appeal, but this is maintained at the expense of the mechanical and biological values. It is this triple standard that is required for a perfect filling material—a material that is mechanically sound under stresses and strains, æsthetically good in all lights and for all time, and biologically kind to the tissues. Many fillings, past, present, and future ones, abide by two of these three standards, but many, including the common cements, fall down on biological grounds. Perhaps in some future time a new material will be found that abides by all these standards.

WORLD CONFERENCE ON ENDODONTICS

THE School of Dentistry, University of Pennsylvania, announces a World Conference on Endodontics, which will be held from June 21 to June 27, 1953. Participating in this Conference will be outstanding leaders in the field of Endodontics, such as Dr. Francisco Pucci, of Montevideo, Uruguay, Dr. W. Stewart Ross, of London, Dr. B. Nygaard Ostby, of Oslo, Norway, and others from Canada and the United States. The Conference will be under the direction of Dr. Louis I. Grossman. The tuition fee for this course is $100.00. Applicants should make direct inquiries to: Postgraduate Courses, School of Dentistry, University of Pennsylvania, Philadelphia 4, Pennsylvania.

DENTAL AND DENTIGEROUS CYSTS

By **ADRIAN COWAN**, M.B., B.Ch., B.Dent.Sc. (Dublin), F.D.S. R.C.S.Eng.

THE purpose of this short article is to deal in a general way with the pathology, diagnosis, and treatment of the two common forms of cyst met with in the jaws—the dental and dentigerous cysts.

PATHOLOGY

1. Dental Cyst.—Dental cysts are related to chronic pulp infection and therefore to caries.

When the cementum of a tooth is being formed, the epithelial sheath of Hertwig is broken up as the cementoblasts lay down their product on the dentine, the dimensions of which have been governed by the sheath. Such remnants of it as are left constitute the cell rests of Malassez, lying in the parodontal membrane. Proliferation of the cells gives rise to the dental cyst, which therefore must form in connexion with a tooth or parodontal membrane.

In chronically infected pulps, a condition is eventually reached where the bacteria in the pulp are in a state of equilibrium with the leucocytes in the peri-apical tissue (Fish, 1948). The leucocytes cannot reach the bacteria, but they can keep them at bay unless they are pumped through by trauma or by increased intraradicular pressure. Leucocytes cannot, however, control the toxins which seep past to irritate the fibroblasts of the parodontal membrane and the rests of Malassez, forming a granuloma—a clump of fibrous tissue, new capillaries, and epithelium, for which space is found by resorption of the surrounding bone.

The next step in cyst formation depends upon the epithelial content. The granuloma either breaks down in the centre and fills with pus from the root canal, thus extending the equilibrium to a deeper level in the form of a chronic apical abscess, or else the epithelium proliferates and a cyst results.

The exact mechanism of its formation is not clear, but it would seem that the cells proliferate until, after a time, the central cells which are farthest from the supply of nourishment, break down and liquefy. Osmosis and the breakdown of more cells continues the process, fluid containing cholesterol accumulating in the centre of the space. Tension maintains this effect, and the vicious circle continues until relief is obtained by some opening, natural or artificial.

Outside, the fibrous capsule is thickening, for fibroblasts respond very readily to coarse stimulation.

The pressure exerted is similar to that of a balloon filled with air in a confined space, and

Fig. 1.—Dentigerous cyst involving a supernumerary tooth.

it exerts an equal pressure in all directions. Consequently expansion is symmetrical, but more rapid in cancellous than cortical bone, giving a smooth round appearance from the lateral radiograph, but not necessarily from the view at right angles.

The cortical bone slowly becomes thinned to parchment thickness, and then destruction occurs, when the soft tissues will be bulged out.

Stones (1949) has drawn attention to another theory. A solid granuloma containing much epithelium will show small areas of granulation tissue containing many inflammatory cells encircled by epithelial loops. When the core

of granulation tissue breaks down, these tiny cysts coalesce to form a dental cyst.

The lining of the dental cyst is stratified squamous epithelium of varying thickness,

Fig. 2.—Large lateral dentigerous cyst of $\overline{|8}$ which destroyed ascending ramus. Post-operative picture.

outside which is the fibrous membrane, thicker in the older cysts. Lymphocytic infiltration is usually present, and the fluid content is yellowish, with a glairy appearance due to the cholesterol, although it may become brown if infection is superimposed.

Fig. 4.—Dentigerous cyst involving the erupting of $\overline{4|}$.

2. Dentigerous Cyst.—The dentigerous cyst contains at least the crown of the responsible tooth, and may arise from obstruction to eruption commonly seen in the impacted lower third molar or upper canine. It may also arise in connexion with a supernumerary tooth, where, unsuspected, it may reach considerable size (*Fig.* 1).

Fig. 3.—Infected broken-down dentigerous cyst involving $\overline{8|}$.

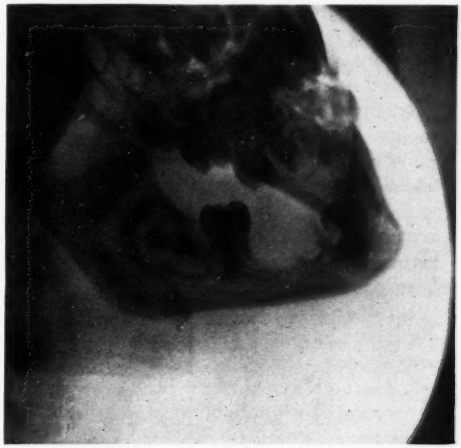


Fig. 5.—Same case: post-operative radiograph.

A process similar to that described above evolves, but this time it is the enamel organ itself which, having completed its task, proliferates as it surrounds the crown, probably

because of compression by the obstruction to eruption. A small cyst attached at the amelodentinal junction results, which may grow to any size. In its smaller form it is commonly seen around the crowns of impacted teeth in the early stages. In larger forms the whole ascending ramus, for instance, can be hollowed out from a cyst connected with an impacted lower third molar without any outward signs (*Fig.* 2). The impression is suggested of the energy expended by the tooth in its unsuccessful efforts to erupt, causing a "back wash" which directly or indirectly increases tension in the cyst, causing further expansion. *Fig.* 3 is another example, showing an infected dentigerous cyst where the overlying bone has been destroyed.

Fig. 6.—Same case: cyst after removal.

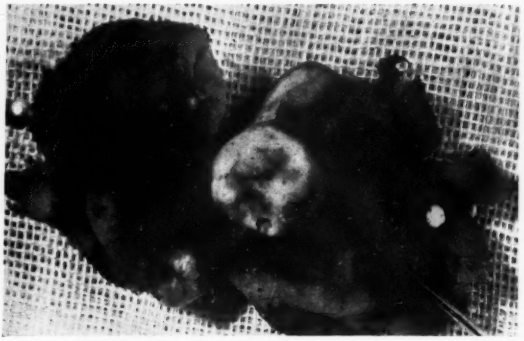


Fig. 7.—Same case: showing section of removed cyst.

In other cases, a dental cyst develops on a deciduous tooth, and its permanent successor erupts into the cyst, thus forming a dentigerous cyst; or a supernumerary or malplaced permanent tooth may erupt into a dental cyst arising from a permanent.

An interesting example of the former is provided in the case illustrated in *Fig.* 4, where a residual cyst from $\overline{ED}|$ produced a very large dentigerous cyst involving the erupting of $\overline{4}|$.

There was a history of trauma followed by an abscess on $\overline{ED}|$ some six weeks previously. The teeth had been extracted, but apparently the abscess remained and was already undergoing cystic changes. A very large swelling from $\overline{7}|$ region to $\overline{2}|$ had expanded the bone and bulged out the child's jaw. Radiographs revealed at least $\overline{4}|$ involved in the cyst. Under endotracheal anæsthesia the cyst was exposed and enucleated by the technique described below, and the space packed with gelfoam. The post-operative radiograph is shown in *Fig.* 5, and *Figs.* 6 and 7 are pictures of the cyst after removal and after sectioning. The interesting fact is that the $\overline{4}|$ is completely enclosed inside the cyst sac.

CLINICAL

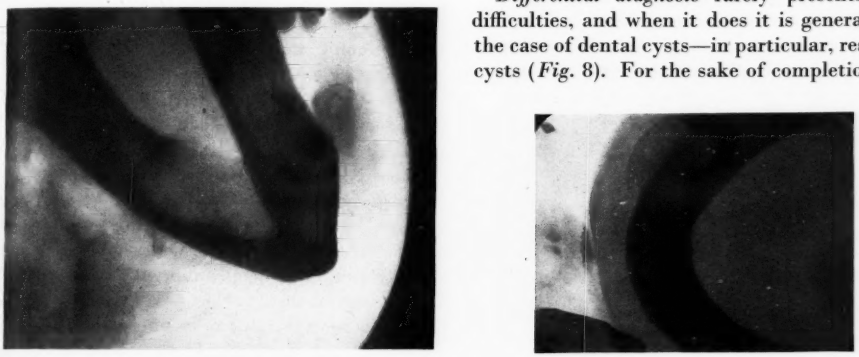
Growth is slow, symptomless, and painless until either a swelling is observed, infection is superimposed, causing pain and/or a sinus, or, in the case of smaller cysts, discovery is made during routine radiographic examination.

Typically a smooth rounded swelling develops so insidiously that it may reach considerable size before the patient seeks treatment. The mucosa may show a bluish tinge, or it may be normal. On palpation the bone is firm until it has been thinned out, when an elastic sensation is felt on pressure. If the bone has been destroyed fluctuation can be elicited.

DIAGNOSIS

A radiograph is essential for confirmation of diagnosis. Characteristically the picture shows a symmetrical round or oval radiolucent area

surrounded by compact bone. In cases of dental cyst, where it is still present, this bone is continuous with the lamina dura of the causative tooth. Anteroposterior or lateral views alone are very deceptive, and two views at right angles to each other are necessary if accurate dimensions are required. Warm lipiodol is an aid in outlining the limits of a cyst when it encroaches on the antral area, or when its boundaries are hard to define for other reasons.



A B

Fig. 8.—A, B, Residual dental cysts presenting difficulty in diagnosis from dentigerous cysts.

Other diagnostic aids are: (1) *Aspiration*; the presence or absence of cholesterol in the aspirate is of some value in distinguishing from embryonic cysts, which do not contain cholesterol (Thoma, 1944). Direct examination of the fluid microscopically reveals the rhomboid crystals of cholesterol. (2) *Pulp vitality* is also a valuable sign, but a variable one. For instance, vital pulps in 23 when a pear-shaped cyst exists between their roots helps to distinguish a globulo-maxillary from a lateral dental cyst. It is surprising how teeth involved in a large cyst can retain their vitality after the cyst has been removed, even though their supporting bone may have been cut away to provide access.

Lester Cahn (1952), commenting on the management of teeth involved in cysts, points out that "vitality" tests are merely attempts to evoke a response by the sensory nerve of the tooth to electrical or thermal stimuli. While a lack of response occurs with a necrotic pulp, one cannot argue from that that all pulps which do not respond are therefore necrotic. In fact, pressure may account for loss of sensory transmission in the vital pulp, and borderline teeth in cystic lesions should be conserved as far as possible.

Differential diagnosis rarely presents any difficulties, and when it does it is generally in the case of dental cysts—in particular, residual cysts (*Fig.* 8). For the sake of completion the possibilities are listed with a word on the obvious difference in each case.

1. Congenital.—

a. Globulo-maxillary Cysts.—Usually pear-shaped, in 23 region. Teeth are usually vital, and the cyst contents show no cholesterol.

b. Incisive Canal Cyst.—Midline maxilla, 1|1 usually vital. No cholesterol.

2. Inflammatory.—

a. Chronic Alveolar Abscess.—Outline in radiograph tends to be irregular. May be pus on aspiration. Dead tooth. Treatment is the same as for enucleation.

3. Traumatic.—

Traumatic Bone Cysts.—Relationship to a tooth may be purely fortuitous. Radiographic outline tends to be irregular, and the compact surrounding bone may be absent (*Fig.* 9).

4. Neoplastic.—

a. Adamantinoma. — Usually multilocular, but not always. Common at angle region of mandible, but can occur anywhere. Not necessarily related to tooth. History of slow and considerable growth. The condition may be confused with multiple residual cysts, but biopsy will clear the diagnosis if there is doubt.

b. Rare Central Bone Tumours.—

Osteoclastoma: Rapid growth; trabeculæ in radiograph; biopsy.

Central Fibroma: Not so symmetrical in radiograph; no aspirate.

c. Malignant: *Sarcoma.*—Rapid growth with bone expansion and invasion, usually in young

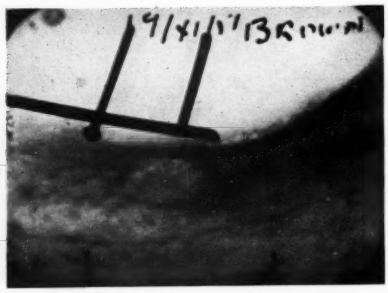


Fig. 9.—Traumatic bone cyst.

subjects. Radiograph may show new irregular bone formation ("sun-ray") or cyst, or just irregular destruction. General symptoms of cachexia may be present too.

5. Fibrous Dysplasia of Bone.—Radiograph may show patchy irregular replacement of bone by abnormal tissue.

6. General.—

Generalized Osteitis Fibrosa.—In cases of multiple cysts it is as well to investigate the serum calcium and phosphorus levels, and to radiograph other bones in the body, to eliminate this condition, in which the serum calcium is raised and phosphorus lowered.

TREATMENT

Anæsthesia may be regional, local, or general, the last-named being endotracheal with the patient hospitalized. The usual indications of sepsis for general anæsthesia hold good, but bigger cases should always be done this way, particularly if chiselling is being carried out, because instrumentation, and malleting in particular, is a cause of nausea with local anæsthetic.

Technique of removal is much the same irrespective of the cause, and is governed chiefly by anatomical considerations.

When the clinical and radiographic pictures have been correlated it is possible to plan the incision which will provide the best access, to decide what bone instruments will be most valuable, and tentatively to plan which teeth may be conserved. Broadly speaking, younger people in whose radiographs plenty of trabeculæ are visible in the surrounding bone, will respond to the chisels, while in the condensed bone of the older patient burring is safer to avoid a fracture from the increased brittleness. More often than not, however, the best approach is a combination of both. A buccal approach is used wherever possible because visibility is better, and dangers minimal, particularly in the lower jaw, where there exists a danger of infecting, or exposing to infection, the deep sublingual space in a lingual approach.

The incision is made to ensure a good blood-supply to the flap, which should be at least the width of a molar tooth greater than the bone cut at each extremity. This enables the flap to be supported on a platform of bone if it is being sutured. Two vertical incisions joined by a transverse one, through the interdental space or along the alveolar crest, represent the commonest method, and one which allows ready extension if necessary. The muco-periosteum is then stripped back with a suitable elevator to expose the underlying bone.

The writer had a large periosteal elevator used for rib resection flattened down to the thickness of the standard oral models. The slim broad instrument which resulted has been found very satisfactory for wider flaps, since very even pressure can be applied to thin flaps where tearing is likely.

In edentulous cases small residual cysts may be extremely difficult to localize, particularly if the overlying bone is normal in appearance when exposed. The use of localizing pins and wires in the wax bite-blocks is a considerable help easily arranged (*see Fig.* 9). One is very thankful for this when, in addition to lack of landmarks, the edentulous patient has a large tongue, control of which can present a problem in endotracheal work.

When the flap has been retracted there will be seen: (1) bone which appears normal; or

(2) expanded thin bone; or (3) destruction of bone at the most prominent point of (2) with the cyst shining through; or (4) no overlying bone—a condition in which it is hard to avoid tearing either the cyst wall or the flap.

Keeping the edge of the *concave* side firmly pressed against the inner side of the bone, it is insinuated between membrane and bone. The convex side acts as an inclined plane in all directions, and as the curette is entered

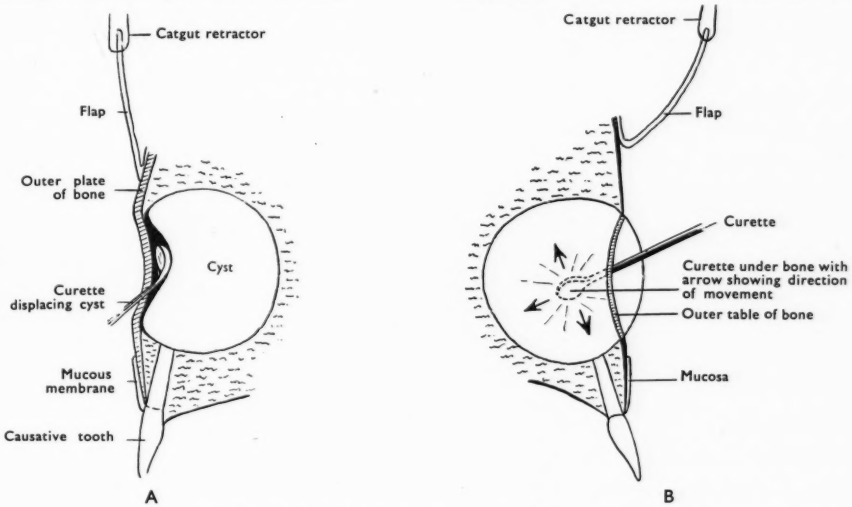


Fig. 10.—Method of stripping the cyst from bone attachment.

Teeth which are obviously useless, and which are hindering access, may be extracted at this stage if required.

Removal of Bone.—

1. If solid bone is present, and if it is thick, bur or chisel may be used, according to the patient's age and bone structure.

2. If the bone is thin, there is a better chance of removing it without puncturing the cyst if burs are used. The advantages of retaining the cyst *in toto* are that it is much easier to define its margins; further, if the sac is thick, enucleation is simplified by the elastic distribution of the force, which helps to strip the sac from the bone when its contents are compressed during removal. Round burs (8) and fissure burs (5–7) are quite satisfactory for this purpose. A square of bone is freed from the sac and removed by drilling four small holes and joining them together with fissure burs. When the sac is visible, a small curette with an angulated handle is used to free the sac from bone.

farther it is slipped up and down, at the same time stripping the cyst from its attachment (*Fig.* 10). As the instrument is advanced, the up-and-down movement is extended in an arc until the maximum amount of membrane has been freed. The beak of the rongeur forceps can then be inserted, and more bone nibbled away until the process can be repeated if necessary. When as much as possible has been freed, a large curette with its concave surface facing the deepest part of the cyst is used to push it out of the opening, while simultaneously traction is applied to the most superficial part with a tissue forceps (*Fig.* 11). In very small cysts once the head of the curette has been inserted it is pressed along bone to the back, and turned towards the cyst in a single sweeping movement, which shells out the cyst.

When the bone is missing or destroyed, the curette can be applied at once. If the cyst bursts, or is deliberately punctured to avoid accidental spilling of its contents or to allow

better visibility without excessive bone removal, the contents are sucked out, and a rongeur applied through cyst and bone together. When the outer wall has been removed, the free edge is held up while with curettes, periosteal elevator, and scalpel the

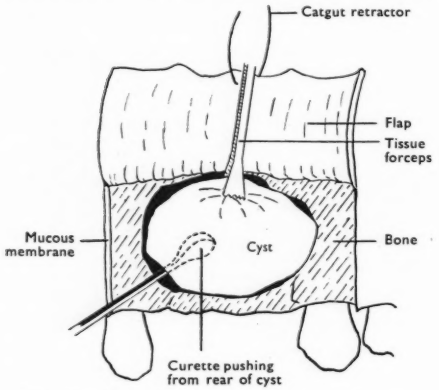


Fig. 11.—Use of tissue forceps in removing cyst.

remainder of the sac is detached. This is the most exacting step and, particularly where the cyst is bound down to the inferior dental nerve, it may be impossible to remove every trace of epithelium without damaging that structure. In such cases, preservation of the nerve is of greater importance, even at the risk of recurrence of the cyst.

In the upper jaw the antrum is usually pushed back by very large cysts, and when the two epithelial linings are in contact it is wise to work in consultation with an ear, nose, and throat surgeon.

After the lining has been removed as completely as possible, the bone margins are trimmed to eliminate dead space, and smoothed out with stones.

Suturing.—Generally speaking the excellent blood-supply in the maxilla, and drainage by gravity, allow primary closure in uninfected cysts up to a considerable size; but in the mandible, drainage and blood-supply are less accommodating, and primary suture is not so effective. Here, suturing is more likely to be satisfactory in the anterior region, where the thin bone can more easily be collapsed.

In all cases it is wise to leave a small gauze drain from the depths of the cavity to an inch outside the wound for 24 hours to relieve the tension of expressed serum and œdema from the trauma. In these cases, too, and sometimes in large infected cysts, packing with gelfoam (Thoma, 1948) which has been cut to size, soaked in warm normal saline, and inserted into a good blood-clot provided naturally or by curetting, is of value.

In the writer's experience the gelfoam does not appear to be completely absorbed in every case, part of it being extruded later, but it does help to fill the dead space. Oxycel gauze can be used similarly, but gelfoam is more adaptable.

Sprinkling the wound with aureomycin cones which have been crushed up (2–4 mg.) is of great value in wound healing, and the writer believes is the most potent antibacterial agent available at present for local use.

In larger or infected cysts the wound edges will separate and healing is by second intention. For them it is better to remove the outer wall of sac and cyst lining, to collapse as much of the flap as possible into the wound after the Partsch technique, and to pack over lightly with "Vaselined" gauze for 48 hours. Daily dressings and irrigation follow until granulation is well under way. Thus an accessory mouth cavity is formed which gradually reduces in depth until it is self-cleansing.

Thoma (1944) criticizes the Partsch technique on the grounds that the cyst lining is pathological tissue, and quotes Cahn as saying that the possibilities of such neoplastic changes as adamantinoma may arise in such tissue. In spite of this, the operation has its place in cases of large cysts, or where removal of all the lining is not practicable for one reason or another. It is a shorter process and better tolerated in old people, the chance of neoplasia appears to be slight, and the daily dressings, while a nuisance, are worth the effort.

The gauze is inserted with the free end above the "hinge" of the flap, and then folded back and forth until the space is filled. The free end is then brought over the main layers, and, using this method, the flap is not pulled away from the clot when the gauze is removed.

Moose (1952), who deprecates the use of what he calls "blood-clot displacing materials such as gelfoam", claims that the beneficial results attributed to these substances have been obtained without their use. He advocates the "autoplastic bone-graft" with its periosteal covering.

When the bone covering the cyst is greatly thinned out, he cuts right through bone with a scalpel by deepening his original incision. If bone is too thick, he cuts through with chisel or bur, and then elevates mucosa, periosteum, and bone as one flap. The cyst is removed, and the flap returned to its original position and sutured there.

He claims that the osteogenic surface of tissue surrounding the clot is increased, and greater rigidity is provided, splinting the clot.

The chief objection that springs to mind in this technique is that it may not be possible to separate the cyst membrane from the inner side of the flap, and some of it may be left behind when the cyst bursts, as is very likely when the bone is being cut. Secondly, the rigid flap may be a two-edged boon, since, by preventing collapse into the space, it may cause the clot to break down and its own bony content to be sequestrated.

Finally, attention is again drawn to the inestimable value of the antibiotics in the control of infection, not just before and after, but also during operation. The combination of systemic penicillin and local aureomycin has been found to be most satisfactory, and emphasizes the fact that although the healing of mouth wounds has long been extolled to the skies, there is no reason for relaxing our efforts to attain aseptic technique.

The author wishes to thank Mr. E. R. Roberts for the photographs, *Figs.* 6 and 7.

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A LAYMAN'S VIEW

By **STEPHEN MOGRIDGE**

FACETIOUS writings about dentistry, by laymen, exist in plenty. I do not propose to add to them, but my dentist has suggested that a serious article on dentistry, as seen from the patient's point of view, would be interesting.

"We read so much about things from our side", he said. "I often wonder what the layman thinks of it all—how the patients see us, what they like and dislike."

I have had, I suppose, an average acquaintanceship with the dental practitioner. Possibly more than the average, for now that I am approaching forty I seem to have collected a variety of fillings. I am not going to suggest, however, that I am an "average man". The longer I live the more I doubt the existence of such a creature. I have my own more or less violent opinions, and it is these, where relevant, that I am going to set out—not generalizations, or the ill-considered comments of friends.

The dental practitioner first makes his impression on a patient during the "formative years" of childhood. My experience at this stage was not encouraging. It was confined to swift extractions, and convinced me that the dentist was an impatient sort of person armed with pliers, whose only interest was in pulling out teeth.

Things have changed for the better since then for the young patient, but even in those "bad old days" I did get an impression of efficiency. The alternative to the dentist was a piece of cotton tied around a loose tooth (sometimes the wrong one) with the other end around the knob of an open door. The victim was then invited to watch the door slam. I only fell for that technique once; afterwards

I preferred to work out my own teeth in my own time in the woodshed, or to visit the man with the pliers.

When my permanent teeth were established there came a long interval during which I grew into my teens without being taken to a dentist. This neglect led to a good deal of work being necessary when I did at last go. It also led to extractions. Since then I have believed in regular visits to the dentist.

So much for my case history. Many men of my age could, no doubt, tell a similar tale. From rather unpromising beginnings various dental practitioners have, during the years, built up my esteem for their profession. There have also grown up the twin pyramids of likes and dislikes, about which my dentist questioned me the other day.

To his query about dislikes I had no hesitation in choosing my own top-of-the-list hate. Not the drill, which I accept philosophically as a necessity, but the porcelain (or is it glass ?) circle on which instruments are laid. This little table, extended before me on its long arm, has a particular unmusical ring when instruments are laid upon it. I suppose a psycho-analyst could have a field day investigating my hatred of that particular note; my own guess is that since those early extractions in childhood the note of the instrument table has been associated with dentists, drills, and discomfort.

Later and more reasonable views of dentists have not overcome that subconscious fear and hate. I do not want to stress this dislike of the noise of the instrument table too much, but if it does date from childhood associations I wonder how many other people dislike that clatter, consciously or unconsciously ? I believe it is the one common factor of dentistry. Though fittings and methods of attending the patient vary, the instrument table is found by every dental chair—and it always has exactly the same note. I sometimes wonder if they are turned out specially tuned !

A remedy for the clang of the instrument table might be the use of plastics or moulded rubber. And while on the subject of the instrument table, I should like to say that I have never met one that is perfectly horizontal. They always seem to sag on their arm as if they are not strong enough for the job, which is a minor irritation for roving eyes.

Some noises I like, particularly the soothing murmur of the sterilizer. This I should place at the top of my list of comforting sounds. How nice to relax and listen to the bubbling water, after a spell of drilling ! Another favourite sound, no doubt because it denotes the end of drilling, is the grinding of the pestle and mortar as the filling mixture is prepared. The gurgle of the suction pipe in my mouth also has a certain soothing power.

Perhaps the best way to examine the thoughts that occur to me when I am in the dentist's chair is to describe a routine visit for a filling. When I enter the dentist's room I like a moment to survey my surroundings before I settle in the chair, even if the room is familiar.

This gives me confidence, helps me to place sounds I hear behind the chair, and takes away the feeling of being rushed. This is the moment for the dentist to make small talk about the weather. I do not expect him to shake hands with me, so I leave the initiative to him. As his hands will shortly be poking about in my mouth I prefer not to think about him shaking hands with other people all day.

Having, like a nervous horse, surveyed the stable, I move to the chair. I like adjustments to be made for my comfort at this stage, then I can concentrate on relaxing during the time the dentist washes his hands. I like to see him wash his hands, so I prefer the basin to be in some corner within my field of vision.

Conversation can begin now. I like a dentist to talk, if he feels so inclined. But I do not want him to begin on something that entails questions and answers later, when I am not able to reply. Let him do all the talking. Being interested in everything, my own preference is for a technical conversation on some matter connected with dentistry. A man is always at his best when talking shop. One old fellow I used to visit would give fascinating talks on the history of dentistry and past techniques. Other useful topics might be the composition of fillings, drill problems, or information about the new "sand-blasting"

technique that laymen have heard is replacing the drill in America.

Next comes the examination. I like to hear a report on findings after this, and then to be given a moment or two to prepare for the drill before the real work begins. If the first operation is the removal of an old filling I like to know when the filling has been cleared away, and when the drill is at work on my tooth.

My dentist tells me that some people like drilling to be done in long spells, so that it is over quickly, but others like short spells. I definitely like short spells. They enable one to recover a state of relaxation more easily, and to retain it during drilling, with luck.

I also prefer slow drill speeds to fast. I can remember the old foot drill and have had enough experience of it to compare it with the modern electric model. A dentist I used to visit in my late teens would offer his patients the alternative of foot or electric drill. The foot drill had the attraction of lower speeds, but after a time I chose the electric, because of its steadiness. The pulsations of the foot drill had too much in common with throbbing pain.

Most patients, I suppose, would put the drill at the top of their list of dislikes, but I try to see it in perspective. I think that most of the people who regard it with fear have only themselves to blame. It is many years since I suffered acute discomfort from drilling. Regular and frequent visits to the dentist, enabling cavities to be caught early, are the best defence against the drill.

Apart from pain, which must be caused when drilling in certain parts of the tooth, I dislike undue pressure and high drill speeds. A combination of both fills me with horror. I like to see what sort of drill is in the bit; it should be changed within my field of vision. This is not idle curiosity. Having seen the size and shape of the drill I know more or less what noise to expect. If I see a large, coarse drill in the bit I am not so alarmed by the noise it causes.

Bone-conducted noise is the chief trouble where drilling is concerned, but of course I realize that nothing can be done about it. I do not like "freezing" if it can possibly be avoided; I would prefer a certain amount of pain. Even when sensation is lost the noise remains, wearing down one's efforts to remain relaxed. That is why I like short spells of drilling. Noise cannot be remedied, but the worries and fears that accompany drilling can —by suitable remarks and explanations.

I worry, during drilling, because I feel the cavity is growing enormous. Used to drilling holes in wood, and occasionally metal, I feel that surely the tiny high-speed drills must be tearing swiftly through the tooth. Especially when working on the softer internal part. Surely there is hardly anything left ? I was pleased to learn that my dentist shares this worry and that when he is at the receiving end of the drill he always wonders if the other fellow isn't taking away too much tooth.

Fear also looms large, for me, when the drill is busy. I am afraid of the tooth breaking and leaving a stump difficult to extract. This calamity has not happened to me; it is just one of those unreasoned terrors. Sometimes I prefer a spell of what I call "chisel work" as a change from drilling—the hand scraping of a cavity. But here the terror of tooth breaking is much increased.

After the drilling comes the blessed period of peace, with the sterilizer for soothing company, and the pestle and mortar busy.

Should a band be necessary, when the filling is put into position, fear crops up again. This time it is fear that the tooth will crack if the band is screwed up too tight. I also fear it is cutting deeply into the gum.

I do not object to having things in my mouth, so long as they do not interfere with the involuntary motion of swallowing. When little absorbent rolls are placed in position I like to feel that an eye is being kept on them and that they will be changed if necessary. I do not mind the suction tube, indeed it has soothing aspects, provided it does not try to suck away the skin from my tongue or pinch my lip over my teeth when work is being done.

I am not particularly keen to keep rinsing out my mouth, though the respite does give one opportunity to swallow. I have noticed a tendency for the patient's basin to get farther and farther behind the chair. When

I was young it seemed to be very handy at the side of the chair, but now it has been ousted by the equipment monolith and it needs quite a contortion to reach it!

I like to be told when the cavity should be kept dry, to be told at all times what I can do to co-operate. I dislike whispered conversations behind the chair with the nurse or receptionist, however harmless. This dislike dates from childhood, when whispers off stage invariably heralded new tortures. Now it merely irritates. By all means converse behind my chair, but loud enough for me to hear.

I do not think there are any changes I would like to see, either in techniques or the normal dentist's approach to his patients. I would certainly hate the intrusion of wireless or television into the dentist's room. I am sure I should prefer the drill to the "sand-blast" machine, bone-conducted noise notwithstanding. The only change I would like to see must seem absurd to you—it is that matter of the instrument table.

Conservative where dentists and dentistry are concerned, as I suppose most people are, I do not want to see changes in techniques, or to see the psychological approach overdone. All I ask of my dentist is friendliness, technical competence, and an interest in the welfare of my teeth. I know that for him my teeth are only one set among the scores he sees daily, but they are with me always—and I hope will remain with me always—and I like him to regard them as my personal possession rather than as inanimate objects.

When circumstances compel me to change my dentist I take care to hunt early, after a recent overhaul, and while my teeth are still in good condition. Well equipped, I can face a strange dentist in the knowledge that he cannot find much to do. I can then judge his manner, and if he will prove "a good dentist"—that refuge from decay and the ravages of time desired by all patients. The test is, I think, whether the dentist inspires confidence. Real confidence is not an instantaneous thing, it grows slowly—from the way a dentist examines one's teeth, from the way he does the simplest filling, no less than from the way he carries out a complicated repair or an extraction.

Few laymen can judge a dentist's skill; judgement is made on little things, on how much discomfort the drill causes, on the dentist's consideration for the patient's comfort and peace of mind, on the dentist's sympathetic attitude to personal fads, on the way he goes about the details of his job.

Never regard a routine examination, or small filling, as of little consequence. It is when there is little to be done that the patient is free to observe the dentist most keenly, and it is at such times that the dentist consolidates, or loses, his position in the patient's regard and confidence.

UNIVERSITY OF PENNSYLVANIA SCHOOL OF DENTISTRY

Dr. Lester W. Burket, Dean of the School of Dentistry, University of Pennsylvania, has announced the appointment of Dr. LeRoy M. Ennis as Chairman of the seventy-fifth Anniversary Celebration Committee.

The Dental School, founded March 6, 1878, was the third university dental school in America. The first class to be graduated was March 1, 1879, and since that date, 7922 graduates have entered into the practice of dentistry in every state of the Union and in nearly every foreign land.

Dr. Ennis, Professor of Roentgenology, and past president of the American Dental Association, has named a committee of 12 men to assist him in arranging plans for the celebration, which will take place on June 10, 11 and 12, 1953. An extensive programme has been planned by the committee and the largest assembly of Alumni in the school's history is expected. The committee is very desirous of receiving messages from Alumni in foreign lands for this occasion. These messages will be placed in the historical record.

FLEXIBLE FORMERS AS AN AID TO MODEL PRODUCTION

By **E. A. SCHOOLDEN**

ALTHOUGH we have now reached the age of mechanical model-trimmers it is doubtful if these excellent machines are to be found amongst the laboratory equipment of many general dental practitioners. Apart from the dental hospitals and teaching schools, the main users are the laboratory owners contracting to the profession where production costs in man-hours have to be minimized in order to maintain a low level in overhead charges.

Neat, trim models can, however, be turned out by the smallest laboratory, or even in a corner of the surgery, by making use of flexible rubber model formers. They also afford a saving in model materials in that little, if any, waste has to be trimmed away.

For artificial stone plasters such as Kaffir "D", they are invaluable as a boxing medium. It is rather surprising that fuller use is not made of these inexpensive and helpful devices by technicians. There are many who still seem content to pour several blobs of their mix on to the bench top, subsequently inverting the cast impressions over them. Wax boxing is sometimes used but is time-consuming by comparison, and is incompatible with alginate impression materials.

Orientation.—When study or record models are required by an orthodontist, clean, smooth, and sharp models must be produced which will remain in the occlusion of accommodation in all planes when they are placed on a flat surface. This is necessary so that a clear view may be obtained of the malocclusion as shown by the models, compared with the current clinical condition, whereby the operator may observe the progress attained without having to move his position at the chairside. In order to fulfil this condition the models may be orientated as follows: Mix just sufficient Kaffir "D" to cast shallow cores into the upper and lower impressions, leaving the surfaces rough. When completely hard, remove the impression material carefully and occlude the teeth in the wax bite register sealing them with a hot knife. Spatulate a second mix of model material, pour into a maxillary shaped former (*Fig.* 1 A), and when a "pasty" consistency is reached the upper core is sunk keeping the occlusal plane as parallel with the bench surface as possible. Accurate paralleling vertically and horizontally is achieved in the final stage, which requires a further mix of a similar consistency to the previous one. A second former, this time of mandibular design (*Fig.* 1 B), is chosen and filled. The model assembly with the upper former in situ is now reversed, and the lower cast gently settled into the mix, whilst

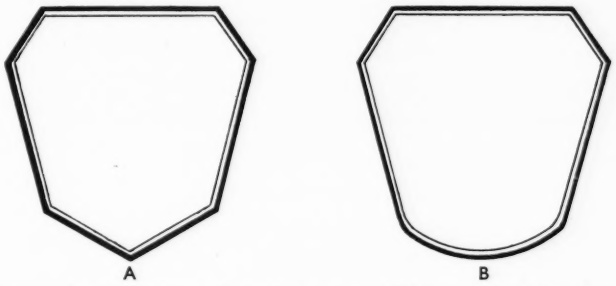


Fig. 1.—Standard shapes of model formers. A, Maxillary; B, Mandibular.

a straight-edge or square is placed against the posterior borders. A small spirit-level placed on top will show visually when a parallel relationship has been established between the model bases. This position should be held until initial set has taken place.

When the formers and bite register are removed the orientation can be tested on a flat plane surface, and any slight errors adjusted by smoothing down the high spots with fine-grade sandpaper held flat.

Occludators.—In crown and bridge techniques, as well as in the indirect method of inlay production, right or left side models are required. They may be cast from a wax occlusion wafer reinforced with a strip of gauze. To assist in producing neat and correctly related models occludator formers are a distinct help (*Fig.* 2).

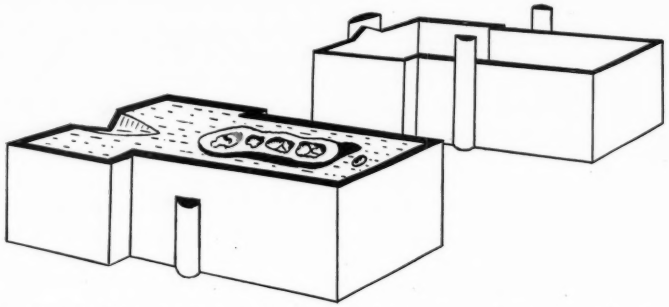


Fig. 2.—Squash-bite cast into lower half of occludator. Upper half ready to be placed in position on lower.

A die of electro-deposited copper, condensed amalgam, or model cement, having been previously prepared from a copper ring impression, is sealed into place in the bite wafer. This die should extend cervically into a tapering "root", the facial aspect of which should carry a "flat" so that it may be replaced in its seating correctly. The root portion is oiled and one side of the wax impression cast in plaster or stone. The lower half of the occludator former is placed on the bench and almost filled with the remaining material. The cast is pressed into it until the root contacts the base of the rubber former. When set, the upper surface is trimmed, smoothed and locating grooves carved before painting with a separating medium. The upper half of the occludator is now placed on top, and again plaster is mixed and poured into the mould so formed. When the block is set quite hard, the rubber shapes being reasonably flexible are easily peeled off. The block should then be immersed in water at about 90° C. for two minutes before opening and scalding out the wax.

The only trimming needed will be a little on the sides exposing to view the plaster teeth, and giving a clear space so that their interdigitation may be inspected. The base of the block carrying the die is shaved with a sharp knife until the end of the root can be seen, when, if it has been sufficiently tapered and lubricated, it can be pushed up and taken out.

After anatomical carving of the pattern has been completed the die may be replaced and contact points checked together with the occlusion. It is advantageous to tin-foil the occlusal surface of the opposing tooth or teeth, which will give sufficient clearance of the bite to prevent gagging when the finished restoration is inserted.

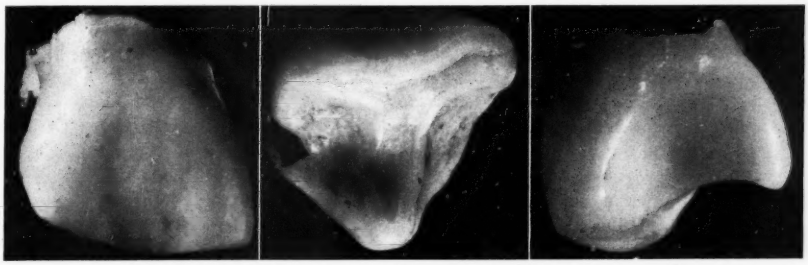
Both occludators and model formers are easily cleaned with a denture brush after soaking in water for a few minutes to soften adherent plaster particles.

> "Little can be accomplished for grown-up people; the intelligent man begins with the child."—GOETHE.

A TUBERCULATED DECIDUOUS LATERAL INCISOR

By **J. S. BERESFORD**, B.D.S., H.D.D.

IN investigating the occlusal effects of tuberculated lateral incisors in the permanent dentition it was observed in some cases that the pulp receded from the anomalous tubercle. right erupted in a position of medio-labial rotation (90°) and a supernumerary *dens in dente* formed between the upper right lateral incisor and the canine.



A B C

Fig. 1.—A, Labial, B, Incisal, and C, Medial surfaces of $\underline{B|}$.

Fig. 1 shows three views of the crown of a deciduous upper right lateral incisor with an anomalous tubercle on the lingual side.

Fig. 2 is a stained section cut in a labio-lingual plane through the highest point of the

Fig. 2.—A labio-lingual section of $\underline{B|}$ to show the pulp chamber.

tubercle. This tooth was shed though the natural processes of root resorption and it could be clearly seen that a cornu of pulp extended nearly as high into the tubercle as the two usual cornua extended towards the medio- and disto-incisal angles.

The permanent lateral incisors were normally formed in this case, but that on the

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NATIONAL HEALTH SERVICE NOTES

Revised Dental Estimate Form.—The new Form E.C. 17 (Rev. 2) has been introduced to replace E.C. 17 (Revised), the use of which, however, will be valid for patients accepted up to Feb. 28, 1953.

The receipt to be given by dentists to their patients for any sums paid will now be a separate form (E.C. 64).

Self-polymerizing Acrylic Resin Filling Materials.—These may now be used under the same conditions as apply to translucent silicate cement filling materials. The fees for the present will be the same as those applicable to corresponding silicate fillings.

Wipla Group of Chrome Cobalt Alloys.—These alloys, comprising WISIL, WIRID, and WIPTAM, may now be used for dental plates, bars, backings, etc. The claims for fees must be submitted under Item 24 of the Scale of Fees.

PARLIAMENTARY NEWS

School Dental Service

The School Dental Service was discussed by Mr. John Baird (Lab., Wolverhampton, N.E.) on the motion for the adjournment in the House of Commons on Wednesday night, Nov. 26.

He said that all knew it had been one of the major headaches within the Health Service during the last five or six years. It was true there had been some improvement in the School Dental Service, and he was not going to deny it. Noting the October number as 827, he said there had been a rise of nearly 100 in the number of dentists in the School Dental Service over the last twelve months. At that rate, it having been admitted that we could not run an efficient School Dental Service until we had between 2000 and 3000 full-time dental officers, it would take at least fifteen years to get an efficient dental service.

"That will be" he declared, "by imposing further and further charges each year to force more and more dentists into the School Dental Service".

The Parliamentary Secretary might say there was still a likelihood of more dentists coming into the Service. "I do not think she has any grounds for that optimism at all. She has already scraped the barrel."

The dental profession were very worried about the situation. The Minister should pay more attention to the British Dental Association's suggestions. We must face up to re-directing the School Dental Service under the Minister of Health, and we must face up to the question of having a fully salaried service for all dental practitioners as being the only ultimate solution.

However, they were now talking about a temporary solution. "There is no one who can argue that there is any possibility of getting an efficient Dental Service within the next five years, unless we do something drastic, and therefore all talk of treating schoolchildren within the clinics is simply pie in the sky."

Recalling the British Dental Association memorandum to the Minister, based on a circularized questionnaire, and the fact that 1743 practitioners were willing to set aside a given amount of time each day to treat school-children in their own surgeries, he declared: "This was a genuine offer by the dentists to get a temporary amelioration on this matter of the priority Dental Service for school-children. The Ministry simply turned down this offer completely, and I believe it was one of the most scandalous and shameful decisions that the Ministry has ever taken on this problem." He believed the real reasons the Ministry turned down this offer were narrow and doctrinaire reasons.

Mr. Baird said the only way children could be treated to-day was in the general dental services because the clinics were not available.

"This is a struggle between the local authorities and the Treasury as to who should pay for the School Dental Service. The children's teeth will be allowed to decay while the Treasury and local authorities argue who is going to pay."

Mrs. E. Hill (C., Wythenshawe): "I hope the Minister will adhere to his idea that the School Dental Service is the best means of securing that attention to the children we desire. I hope he will be able to help the local authorities in that direction."

Mr. A. Blenkinsop (Lab., Newcastle-upon-Tyne, E.) stated that we had far too few dentists. Many dentists were not operating full time, not because the need was not there, but because of the effect of the dental charges. Already the effect of the charges had been to cut down the number of new entries.

There had been some falling away in conservation work. "It is alleged that dentists to-day, if patients come in for small items of treatment, are charging the full £1. Some are arguing that they cannot get any treatment under £1 to-day from dentists. This is a matter that does need some investigation."

Mr. Baird intervened to declare that he did not know any dentists who did that.

Mr. Blenkinsop said the only long-term solution of the problem was the institution

and development of a full salaried Dental Service, with the addition possibly of some sessional work.

Miss Patricia Hornsby-Smith (Parliamentary Secretary to the Ministry of Health) said: "Where we differ is on the best method of using the spare time which some dentists admit they have and the most efficient method of using their skill for the betterment of the teeth of the children."

She went on: "So far as the local authority service is concerned, which includes the School Dental Service, the Ministers of Health and Education firmly believe that by far the best method is to arrange with dentists to treat children in school or in local authority clinics on a full-time or part-time basis.

"What are we offered in the British Dental Association's proposals? The responsibility will be divided. The volume of treatment which the public dental officer will do will be materially reduced. In the Association's own words, he becomes a co-ordinator. He will inspect and decide the treatment and will then tell the child or the parent to go along to a certain dentist. He will provide the child with a chit. From then on, his responsibility ends.

"The responsibility for seeing that the child goes to the dentist is that of the parent. But if a parent wants his child to go to the dentist, there is nothing to prevent him from taking the child along now—and it is one of our regrets that more parents do not do so."

There was no doubt that the suggestion contained in this alternative scheme would seriously undermine the present local authority dental service. Indeed, such a plan would go a long way towards wrecking what was admitted was by no means a perfect system, but which they were taking determined steps to build up—the local authorities priority dental services.

It was the intention of the Ministers of Health and of Education to take steps to ensure that there were increasing facilities for the treatment of children through the local authority clinics. The Ministers put out a very strong recommendation to local health and education authorities to invite dentists to work in their clinics, either full-time or part-time. In some areas there had been a very welcome response, even to the extent of asking dentists if they would do one session a week.

The British Dental Association had informed the Ministry that a total of 583 practitioners were willing to work part-time, not in their own surgeries, but to work for school dental clinics. "So far, our request to be supplied with the 583 names of the gentlemen who were prepared to help has been met with a cold silence."

Mr. Baird interposed: "That is a little dishonest. The British Dental Association offered a co-ordinated scheme—some of the dentists to work in clinics, some in their own surgeries. I do not think it is fair of the Parliamentary Secretary to ask some dentists to accept unless she accepts the whole scheme which was worked out."

Miss Hornsby-Smith: "I am merely suggesting that if the first concern of these 583 volunteers was the health of the children of this nation, if they were so anxious that the children's teeth should not rot in their heads, as Mr. Baird suggested we wished them to do, their first concern would be to make a contribution to that service."

If the first principle of the dentists was the future dental health of the nation, she believed that those names would be forthcoming. If—and she did not believe it was so—financial advantage ranked higher than child care they would not get the names. "I am content to leave the decision to the British Dental Association."

Answering Mr. Blenkinsop's point, of dentists who were charging more than the normal set fee for fillings when that fee should be under £1, she said there was power of redress in such matters. The procedure was that the patient should make a complaint to his or her appropriate executive. She believed that most dentists were maintaining the fees which had been laid down, and which applied to the general dental services.

Continuing, she said one result which already had been seen as a result of the changes in the priority given to the children and adolescents this year, was an increase in

the work in private surgeries on the under 21's. This was now in a greater proportion than hitherto, when there was a general free service.

In conclusion, she said: "What, in our view, is essential, is that the children should have a chance to have their teeth attended to under the ægis and authority of their school dentists, as we believe that this is the surest way of seeing that treatment is adequately and properly carried out." (*W.*, *Nov.* 26.)

The Education Bill, Second Reading

During the House of Commons' second reading debate on the Education (Miscellaneous Provisions) Bill, Mr. John Baird (Lab., Wolverhampton, N.E.) drew attention to Clauses 5 and 6 which, he said, imposed certain statutory obligations on local authorities to provide dental services for school children.

Declaring that he was speaking on behalf of the British Dental Association, he added: "I do not understand what the Minister is getting at and I have been asked by the Association to get some clarification from her to-night".

At present, he pointed out, many local authorities were unable to engage sufficient dental officers, and as a result some of them had discharged their statutory obligation by arranging, in co-operation with dentists in private practice, to allow the schoolchildren time off to have their dental treatment carried out in the private practitioners' surgeries.

Recalling the debate which he himself initiated recently, on the Adjournment, he said that if the figures he had quoted were correct—and they had never been denied—there was no likelihood of getting a comprehensive school dental service for the next ten years, in view of the manpower shortage and the present rate of the school building programme.

If a local authority took every available step to provide an adequate school dental service and yet could not provide this service, would the local authority have the right to make an arrangement with dentists in private practice to do as they had done in the past—allow time off for children to be treated in the surgeries of private dental practitioners—he asked.

Replying, Miss Florence Horsbrugh (Minister of Education) said: "All we are saying is that local authorities should provide the dental service. I am certain it is right that we should now make it quite clear that these services should be provided. Mr. Baird said we would not be able to provide the service. In the meantime, there is nothing to prevent parents sending children to other dentists, and I do not think Mr. Baird need be quite so pessimistic about it".

She agreed that every year since 1948 there were fewer full-time dentists in the school dental service—or their equivalents, but this year there had been a great improvement.

Miss Horsbrugh added: "It is to be laid down that every local authority shall provide a service. Mr. Baird asks if we will prevent children going to other dentists—of course, we will not. It will be the duty of the local authority to provide the service".

Mr. Baird: "The dentists are not there".

Miss Horsbrugh: "At present we know there are cases where treatment cannot be granted to all children, but there is nothing in the Bill to prevent the children going to any other dentist".

The Bill was read a second time. (*M.*, *Dec.* 8.)

MONTREAL DEGREE CONFERRED

Dr. R. V. Bradlaw receiving a degree "honoris causa" in Dental Surgery, from Mgr. Olivier Maurault, Rector of the University of Montreal, during his recent visit to Canada.

LETTERS TO THE EDITOR

Nov. 10, 1952.

Dear Sir,

Here are the details you request of treatments refused and accepted, listed separately, and here are my comments :—

In view of the constant refusal of posterior bridgework I no longer submit such estimates.

The only refusals of crown work I have had were in cases which merited such treatment on cosmetic grounds only. Such refusals, I feel, are probably justified.

Finally, I would like to say how aggravating is the attitude of the Board to paradontal work. Every case for gingivectomy I have submitted has been referred to the R.D.O. but never has the latter queried my estimate —and yet they still continue to be referred with the inevitable months' delay. In addition, nearly every estimate for prolonged gum treatment is returned with the fee severely reduced—and yet, in my opinion, the fees for such treatment are already too low. It certainly isn't the profit-motive which inspires me to undertake such work.

And now may I say how encouraging it is to find someone wanting to take up the cudgels on behalf of the profession instead of against it.

Refused.—

Miss H., aged 28. Replacement of |4. $\frac{6|6}{6|6}$ also missing but spaces closed.

Miss H., aged 40. Replacement of $\underline{54}|$. $\underline{|5}$ only other tooth missing.

Mr. T. Bridge for $\underline{65}|$. No other teeth missing. One small filling. Exceptionally fine mouth. Partial upper denture approved in lieu of bridge.

Miss P., aged 30. Bridge for $\underline{|4}$. Other teeth missing $\frac{84|48}{84|\ 8}$. $\underline{4}|$ space closed.

Miss E., aged 33. Jacket crowns for $\underline{1|1}$ which were disfiguring because of gross "mottling" of enamel.

Approved—

Miss MacG. Bridge for $\underline{4}|$. D.E.B. paid the fee for a one-tooth denture towards cost of bridge.

Yours faithfully,

A. SCRUTON.

Granville Road,
London Road, Leicester.

Nov. 12, 1952.

Dear Sir,

I write in response to your Editorial of the November issue, in the hope that I may be able to throw some little light upon the problem you raise therein.

I have no doubt but that numerous practitioners will acquaint you with details of gold inlays, bridges, or dentures which have been refused. My own experience has been that not one bridge or metal denture estimated for by me throughout the past two years has been refused ; and I think that the obvious answer is that in every case in which a reasonable clinical necessity is established, and the charted condition of the mouth supports the clinical diagnosis, refusal will not occur.

In any public dental service, it is difficult ever to establish clinical necessity for a gold inlay. One cannot but feel that in almost ever case alternative methods of restoration are available.

Bridges are desirable in certain well-defined cases, e.g., in unilateral loss of a few teeth of which replacement by a denture would be unnecessarily bulky. Metal dentures are essential only in cases of extremely close bite.

It should always be remembered by practitioners that the General Dental Service expends large sums of public money ; and that the people concerned with the approval of dental estimates are responsible for, amongst other things, expending public money wisely and necessarily. Being public servants they are not at liberty to disclose or to discuss details of cases which come to their notice, and consequently accounts of refusals of estimates are given only by those practitioners concerned, are therefore one-sided and certainly are not impartial.

The Health Service is, as its name implies, a health service. It is not an æsthetic service; nor is it a means of encouraging dental practitioners to engage in what you describe as "higher techniques" unnecessarily at the expense of public funds.

It is obvious that if the primary function of the Health Service and the avowed goal of the dental profession, viz., education of the public towards *prevention* of dental disease, were accomplished, all dental treatments would eventually become simple and easy. Since it is to that end that we work, surely we should be content that the necessity for "higher techniques" should be disproved by experience?

I have found the PRACTITIONER of great help, and enjoy reading each copy as it comes. May I say in conclusion, sir, that I would consider the PRACTITIONER wise to abstain from all dental political controversy of this nature and to remain as it has been until now.

Yours faithfully,

W. MCCLELLAND.

Bramleigh,
Kirby Cross, Essex.

Nov. 21, 1952.

Dear Sir,

Concerning your Editorial in the November issue, I think that my experience with the Dental Estimates Board may be of interest.

Bridge-work: In no case have the Board agreed to pay the cost of a bridge; grounds given for necessity of this treatment were irritation of the palatal gingivæ by a plastic denture in two cases, and the importance of public speaking in one other case where a denture impaired this.

Skeleton gold dentures: These were nearly always approved provided adequate reasons were given, backed up by study models.

Gold inlays including lingual dovetail type: Nearly always approved if it was certified that this was the only satisfactory means of restoring the tooth, or that a plastic restoration had already failed.

Surgical removal of teeth and roots: Only one case was refused, which admittedly looked easier in the X-ray than it really was. In this case the Board subsequently paid the fee when told of the actual difficulties and the surgery time which were involved.

Crowns on anterior teeth: The Board apparently will not approve these for purely æsthetic reasons in girls of about twenty, even though they would no doubt have approved orthodontic treatment for the same patients when younger (two cases involved here).

Yours faithfully,

PETER J. HILL.

45, *Berkeley Court,*
*Baker Street, N.W.*1.

ABSTRACTS
from Other Journals

Polyantibiotic Treatment of Pulpless Teeth

The advent of antibiotics ushered in a new era in the practice of endodontics. The root canal of an infected pulpless tooth can be sterilized to-day in one treatment, in most instances. The actual chairside time spent in sterilizing and filling a canal need be no greater than that required to prepare a cavity, take an impression, and cement an inlay.

There is no single antibiotic that will destroy the various types of organisms present in an infected root canal. A combination of penicillin and bacitracin will destroy all Gram-positive organisms, including those that are resistant to penicillin. Streptomycin calcium chloride will kill Gram-negative organisms. While there is no antibiotic commercially available that will destroy yeast organisms, such as *Candida albicans*, sodium caprylate is highly effective against such organisms. These three antibiotics and sodium caprylate are not only compatible with each other but have a synergistic effect. When suspended in a physiologically inert solution (such as silicone fluid of low viscosity), a white creamy paste results which, when inserted in a root canal, is capable of destroying all varieties of organisms present.

A clinical evaluation of 250 cases showed that negative cultures were obtained after an average of 1·4 treatments. Necrosis or gangrene of the pulp; acute, subacute, or chronic abscess; and granuloma were present in the cases treated. About half of the patients were treated by undergraduate dental students, while the other half were treated by the author. Even in inexperienced hands, only 1·6 treatments, on the average, were necessary to secure negative cultures; whereas in the author's cases, 1·2 treatments were required. Compared with a control series of cases, in which older medicaments were used, it required only about a third of the number of treatments with this polyantibiotic paste.—GROSSMAN, L. I. (1951), *J. Amer. dent. Ass.*, **43**, 265.

Streptococcal Glossitis and Geographical Tongue

Under "Any Questions" the following reply is given to the question "What is the differential diagnosis and treatment of streptococcal glossitis?"

Streptococcal Glossitis is a dubious entity, and the pictures figured in the textbooks would serve better for the condition of geographical tongue. This is a benign condition characterized by white patches on the tongue which change daily in configuration and resemble the land outlines of a map. It is hard to have the strength of mind to refuse to treat the condition, especially when it is seen in a child, as is so often the case, but it is harmless and constitutional. The worrying parents are distressed if nothing is done, and yet nothing should be done.—*Brit. med. J.* (1952), **2**, 524.

Extraction of Teeth in the Presence of Acute Infections

The question of whether or not teeth should be extracted in the presence of acute infection has been controversial for many years. Many have preferred to postpone extraction until the infection localizes, the leucocyte count is raised, and the natural defence mechanisms have been mobilized; whereas others have expressed themselves in favour of immediate removal of the teeth.

The purpose of this discussion was to show that, after analysis of more than 3000 consecutive extractions wherein immediate extraction was performed regardless of infection and any concurrent conditions, (1) the general belief that teeth should not be removed in the presence of an acute infection is an erroneous one; (2) proper surgical technique, together with the use of the antibiotics where indicated, will produce no more complications, and generally less severe ones, than will extraction delayed until after treatment of the infectious process. That the complications following the extractions were few, seems indicative that

this procedure is preferable to postponement of removal of teeth until the inflammation has subsided or the symptoms have abated.

Many patients do not seek immediate relief because they have been led to believe that extraction in the presence of infection is unsafe, or that the dentist will refuse to extract until after subsidence of the symptoms. Extraction in the presence of submandibular swelling may present a dentolegal problem because of the attitude of both the laity and the profession. By classroom instruction and some text-books, the belief that extraction in the presence of an acute infection is contra-indicated has been passed along without adequate clinical proof of its truth.

A series of 3127 extractions is presented, in which operation was performed immediately, without regard to infections present or concurrent disease. A general anæsthetic was employed in 90 per cent of the total 3127 cases. Neither osteomyelitis nor septicæmia developed in a single instance. Extra-oral incision and drainage was necessary in only 3 instances following removal of acutely abscessed teeth. Immediate extraction is the treatment of choice for cases of acute abscesses.—KROGH, HAROLD W. (1951), *J. oral Surg.*, April, 136.

INSTITUTE OF BRITISH SURGICAL TECHNICIANS (INC.)

(Dental Section)

A DEBATE on "Fixed and Removable Appliances in Orthodontic Work" was held at the Eastman Dental Hospital on Nov. 11, 1952.

The Chairman, Mr. J. R. Boswell, presided over a large and representative audience, who followed with keen attention the able expositions of the two speakers, Mr. H. Lester Leech, B.D.S., L.D.S., who indicated the advantages of removable appliances, and Mr. Ronald V. Tait, B.Sc., L.D.S. R.C.S., the protagonist of fixed appliances.

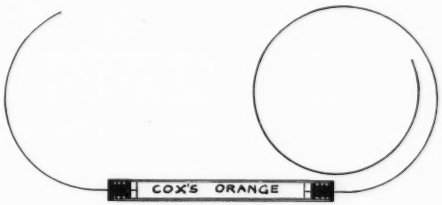
While indicating their preference for the particular type of appliance with which they were mainly concerned in the different spheres in which they were engaged, it was admitted on both sides that there were cases in which the other type of appliance had advantages. The subject could not, therefore, be debated in a controversial spirit nor could any arbitrary rule be laid down. Their remarks were illustrated by slides and blackboard sketches and much useful information was also imparted in the answers to the questions which followed the speakers' addresses.

A Lecture will be given by Professor J. Osborne on "The Manipulation of Investment Materials", on Tuesday, Jan. 20, 1953, at 6.30 p.m., at the Eastman Dental Hospital, Gray's Inn Road, London, W.C.1. Tickets are obtainable on sending stamped addressed envelope to the Institute, 6, Holborn Viaduct, London, E.C.1, or through members.

A HINT FOR GARDENERS

Empty local anæsthetic cartridges can be used to make excellent labels for plants, flowering bushes, fruit trees, etc., as they are permanent, waterproof, and can be easily distinguished.

A small typewritten label is prepared and inserted into the cartridge, a length of stainless steel wire is passed through the tube and



the ends sealed with the rubber bungs provided.

The stencilling on the cartridge can first be removed by scraping with a knife, or by means of the polishing lathe with a stiff calico mop.

BOOK REVIEWS

A MANUAL OF DENTAL ANÆSTHESIA. By W. HARRY ARCHER, B.S., M.A., D.D.S., Professor of Oral Surgery and Anæsthesia, School of Dentistry, University of Pittsburgh. $6\frac{7}{8} \times 10$ in. Pp. xii + 192, with 146 illustrations. 1952. Philadelphia and London: W. B. Saunders Co. 27s. 6d.

ALTHOUGH this book would have been better entitled "Anæsthesia in Dentistry", it sets out to cover the whole field of anæsthesia with particular reference to dentistry. It is divided into two parts, the first covering local, and the second general, anæsthesia.

Part I is prefaced by an historical survey of the discovery of anæsthesia which is of interest and profusely illustrated, perhaps unnecessarily so, with photographs of early apparatus and workers prominent in the field of anæsthesia from the earliest days.

The chemistry and pharmacology of local anæsthetic agents in common use is the subject of a chapter and is very adequately dealt with. It is interesting to note that no reference is made to cocaine, which presumably has been displaced in the United States by the more recent, less toxic, substitutes.

The remainder of the local anæsthetic section deals with indications, contra-indications, uses, and techniques in administration. These chapters are very clearly illustrated with good anatomical drawings and diagrams. More attention might have been given to the intra-osseous method of infiltration anæsthesia, which receives hardly more than a mention. The highly unsatisfactory practice of penetrating the cortical bone with the needle itself is described, which, in the reviewer's opinion, is contra-indicated.

The final chapter of Part I is concerned with post-injection complications. It is difficult to read easily owing to the very long case reports which could well have been shortened or omitted altogether. Methods of removing broken needles following attempted mandibular block injections are described, but it is extremely doubtful whether under any circumstances a practitioner is wise in attempting to remove a completely buried needle in the dental surgery.

The accent of this book is on local anæsthesia, which is natural enough in an American publication. Part II will therefore be of rather less value to readers in this country. The relation of the stages and planes of surgical anæsthesia to the associated physiological changes is only briefly mentioned. There are, however, some good illustrations.

The final chapter deals with the legal aspects of anæsthesia, which is written with particular reference to the law in America, but in general the advice and warnings hold good here.

This is an excellent book for use in conjunction with standard text-books and as such can be recommended to the dental practitioner rather more than to the student. D. F. S.

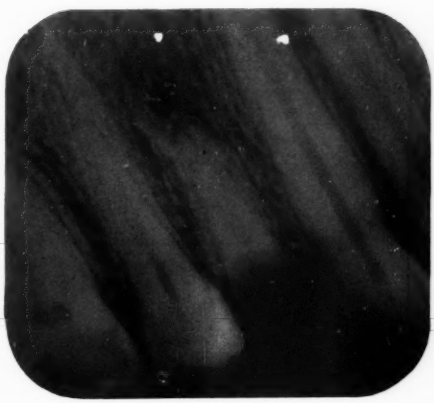
THE NEWER KNOWLEDGE OF HYGIENE IN DIET. By J. SIM WALLACE, M.D., C.M., D.Sc., F.D.S. R.C.S., F.A.C.D. Vice-President, The Food Education Society; Emeritus Lecturer in Preventive Dentistry, King's College Hospital. $6 \times 9\frac{1}{4}$ in. Pp. 304 + xiv. 1952. Brooklyn, N.Y.: Dental Items of Interest Pub. Co., Inc. (London: Henry Kimpton.) 36s.

THE name of Dr. Sim Wallace has been associated with diet and the problem of dental caries for over fifty years, and this book is in some ways an autobiography of his life's work. Dr. Wallace died in 1951 at the age of 82, and this book is a fitting tribute to his knowledge and his keen insight into the diet of mankind in its relation to dental disease. His ideas may be summed up—all too briefly—by quoting his words: "The cause of caries depends chiefly on the lodgability, fermentability, viscosity, and impermeability of food with regard to acids and alkalis, while the irregularities of the teeth are caused chiefly from conditions arising from interference with growth and the natural instinct to gnaw in infancy, resulting from depriving children in early life more especially of those foods which tend to throw pressure strains on the growing

Issued with "The Dental Practitioner", January, 1953, Vol. III, No. 5

RADIOGRAPHIC CHART No. 8.

THE DIAGNOSIS OF BURIED ROOTS



A

B

C

Buried roots may be a constant source of trouble to a patient, as well as leading to a possible seriously infected area. A radiograph is usually the only means of detecting them, and their removal is essential.

A, Buried root of $\lfloor\overline{4}$; B, Buried root in $\lfloor\overline{123}$ region: C, Buried root in $\overline{7}\rfloor$ region.

jaws". Who in these modern days of dental research does not realize the element of truth spoken here. It is interesting to read that the same sort of views were expressed by Parmly in 1818. One would have hoped that after 134 years a little more would have been known about this disease. This is a book for the dental surgeon who tries to help his patients apart from mere dental treatment. It is full of advice that should be read and passed on, not only by the dentist but by medical officers of health and maternity and child welfare workers. The book is actually dedicated to these last-named social workers, for besides the effect of diet on the oral mechanism it includes aspects of disease that may be due to deficiency in the diet. N. L. W.

INTRODUCTION TO DENTAL ANATOMY. By JAMES H. SCOTT, B.Sc., M.D., L.D.S., Lecturer in Anatomy for Dental Students, The Queen's University of Belfast; and NORMAN B. B. SYMONS, M.Sc., B.D.S., Lecturer in Dental Anatomy and Histology, and Curator of the Dental Museum in the University of St. Andrews, at the Dental School, Dundee. $5\frac{1}{2} \times 8\frac{3}{4}$ in. Pp. viii + 292, with 172 illustrations. 1952. Edinburgh: E. & S. Livingstone Ltd. 35s.

ONE's first impression of this new edition is that it is the volume which has long been needed to replace the books written by the British pioneers of dental anatomy and histology which unfortunately have not been continually published in revised form. This impression is largely created by the excellence of the illustrations, but the publishers have also contributed greatly by clear printing and adequate spacing.

The book is written primarily for undergraduate students, although each chapter is concluded with a bibliography of the more important works in the English language, in spite of the authors having stated in the Preface, by a strange twist of grammar, that they believe the majority of students, not having the necessary mastery of foreign languages, will be unable to make adequate use of them! However, the references are comprehensive and include recent publications.

Slightly less than half the book is devoted to Comparative Dental Anatomy and useful chapters are included on the evolution of the jaws and the mandibular joint; tooth attachment and succession; comparative anatomy of the dental tissues; the form of teeth in relation to function; and characteristics of the human dentition in the light of comparative anatomy. This section of the book devotes 50 pages to a study of the dentitions of different orders; one can but question whether this space might not have been more profitably used in the section dealing with human anatomy.

The most disappointing feature about the book is a failure to stress the biologic approach, even though this appears to be appreciated by the authors according to remarks in the Preface. The supporting tissues of the teeth are nowhere treated as a unit, and are not even considered in consecutive chapters, whilst the principal fibre bundles of the periodontal membrane are poorly described. The part dealing with these tissues must be considered incomplete. Similarly insufficient connexion is made between the pulp and dentine.

This failure may be traced to an inadequate treatment of the developmental aspect of the subject. Development of the face is considered in the first chapter, but the description is so brief that it is doubtful if it will help students to understand the pathogenesis of clefts and developmental cysts. In two parts of the book the word "epithelium" is used in a manner which is unorthodox and unsuitable for a student's text-book; thus one reads: "The odontoblasts . . . form an epithelium on the surface of the pulp"; and "Osteoblasts . . . form an almost continuous epithelium on the surface of the bone".

In spite of these discrepancies and certain other minor ones, however, there is much which is good in the book, and it is particularly pleasing to see better descriptions of age changes and jaw growth than is usually found in such books. Without doubt this book will provide a good introduction to the orthodontic aspect of dentistry, and with adequate supplementation by means of lectures and demonstrations, can be recommended as a basis for further studies. A. B. W.

OFFICIAL SUPPLEMENT OF THE

SURGICAL INSTRUMENT MANUFACTURERS' ASSOCIATION (INC.)

DENTAL LABORATORIES SECTION

Chairman : E. G. EMMETT, F.I.B.S.T.
Administrative Offices : 6, HOLBORN VIADUCT, LONDON, E.C.1
Telephone: CITY 6031

Vol. II, No. 10 January, 1953

Editorial Committee: D. M. BEAUCHAMP; H. J. POTTER, F.I.B.S.T.

EDITORIAL

A PERUSAL of the verbatim report in this issue of the meeting with the French dental laboratory leaders will show that they, too, feel that the ultimate best interests of all engaged in dental services are more likely to be secured by adherence to high ethics.

Had we found France or America solid behind the idea of dental technicians working direct to the public as prosthetists, the loyalty of many might have been strained, and the staunchest of us tempted to reconsider his membership of S.I.M.A.

The French association is in contact with the Italian and Belgian; Belgian operators exchange courteous contacts with the Dutch in the Nationale Vereniging der Tandtechnishe; that their ideals are in accord is a reasonable assumption. The energetic American leader in a letter to our own president, has recently expressed his intention to foster dental laboratory association in Latin America, along the same lines as in his own country.

It therefore seems safe to predict that as we become acquainted still further with the responsible men of other nationalities, we shall find the same prevailing attitude.

* * *

New years bring new resolutions. Let ours be that by the time this one closes, we shall have made contact with, and established understanding between, laboratory associations all over the world, and be in a position to assure our sympathy and support to those who have undertaken the task of making and cementing world friendships among master dental technicians—the Belgian, J. Oosterbosch, for Europe, and the American. R. J. Rothstein, for the New World.

WEEK-END CONFERENCE

Members are reminded of the Week-end Conference which will take place at the Holborn Restaurant on Feb. 13–14, 1953, the arrangements for which are as follows:—

Friday, Feb. 13—6.30 p.m., Annual Dinner and Dance. Tickets 28s. 6d. each.

Saturday, Feb. 14—11 a.m. Annual General Meeting. Members only. 2.30 p.m. Exhibition of Craftmanship. Admission by free ticket.

In addition to the branch exhibits and various outside organizations taking part, there will be set apart a table for members' chrome-cobalt castings, and another for stainless steel pressed dentures.

Members wishing to display their castings should contact Mr. E. W. Donovan, 13, Ealing Road, Wembley, Middlesex, who has undertaken the responsibility for the chrome-cobalt

table, and for stainless-steel work members should contact Mr. W. L. Thomas, 8, Perry Vale, Forest Hill, S.E.23, who is in charge of the steel table.

All work must be identified with the name of the maker marked either on the models, or on white postcards accompanying the work.

Admission tickets and further details regarding the above may be obtained from the Organizer, Mr. C. M. Booth, 26, Palmerston Road, Wood Green, N.22.

NEWS FROM HEAD OFFICE

Wage Claim for Grade III.—The Trade Unions have indicated that in view of other more important business now before the National Joint Council, they do not intend to pursue this matter further.

Holidays with Pay.—An amendment with regard to the holidays with pay clause in the conditions of service for dental technicians, the object of which is to clarify the position in regard to broken periods of service, has been submitted to the N.J.C. by the Trade Unions and has now been referred to the Employers' representatives for their views.

Disputes Committee.—The procedure and powers of the Disputes Committee were discussed at the last meeting of the National Joint Council. These are to be considered by both sides of the Council and further reviewed at a future meeting.

Termination of Indentures.—Members finding difficulty in providing sufficient work for their apprentices are advised to contact the Association before taking any definite steps so that they may receive advice as to the legal position.

Wages during Sickness.—The Unions have intimated that they are prepared to accept the proposals put forward by the Employers at the May meeting of the National Joint Council for deduction of national insurance benefits from wages during sickness, subject to an extension of the annual half-pay period (at present four weeks) to six weeks. The Unions' counter proposal is now under consideration by the Employers' side.

"*Swedon*" *Demonstration.*—A demonstration of "Swedon", a quick-curing acrylic for partials, has been arranged in collaboration with Messrs. Henry Courtin & Sons, Ltd., at the Eastman Dental Hospital on Thursday, Jan. 22, 1953, at 7 p.m. The new Myerson colour film on Dura-blend Teeth will also be shown. Admission tickets may be obtained from head office free of charge.

CAN YOU BELIEVE IT?

A technician was getting trouble with the crazing of acrylic teeth and there appeared to be no cause for this fault.

On investigation, however, it was discovered that when the technician had prepared his dough and was ready to pack the denture, he then poured out a separate jar of monomer and dipped the dough into the monomer before packing; his idea being that this kept the denture material in a "nice tacky condition".

On ceasing to use this dough-wetting technique, the crazing of his acrylic teeth disappeared.

BRANCH NEWS

London Regional Branch.—Members are reserving all energies for their responsibility for the arrangements for the Week-end Conference, under the organization of Mr. C. M. Booth.

South Wales and Monmouthshire and the **South-west England** branches are planning a get-together, by an exchange of visits. This is a new idea for S.I.M.A., and we wish the venturers all success and pleasure.

FRENCH AND BRITISH LABORATORY MEN COMPARE NOTES

A MEETING was held at the Holborn Restaurant on Saturday, October 25, at 11 a.m., to consult with the representatives of the Fédération Nationale de la Prothèse Dentaire. There were present, Messrs. E. G. Emmett, F. E. Martin, C. M. Booth, P. V. Treseder, L. Heydermann, of London, and from Croydon, H. J. Nowers, J. Cole, S. Rohan, and D. M. Beauchamp.

The chairman, Mr. Emmett, opening the meeting, stated that it had been arranged in somewhat of a hurry and was, to say the least, impromptu. As such was the case we could all remain seated while speaking.

He then said: "We are honoured by the presence of these three gentlemen, M. Drouhin, M. Duvaudié, and M. Perrot, the President, Vice-president, and Secretary of the French Laboratories Association, and we welcome them heartily. They had received one of the invitation cards for a recent S.I.M.A. table demonstration meeting, and decided to attend on condition that they would meet representatives of the English organization on the following day for an interchange of view. Owing to the shortness of notice, we were unable to entertain our French guests in the way we would have liked. They will appreciate, as in their own country, that our members are spread out over the British Isles; had we been in a position to advise them earlier, no doubt we would have had a far larger number here to-day".

All this was interpreted by Mr. Rohan, and M. Drouhin on behalf of his federation and colleagues thanked Mr. Emmett very much.

Mr. Emmett: "At this stage, I would say on behalf of members, we have to thank our old friend Mr. Stephen Rohan, who is acting as our interpreter to-day; without him this meeting could not be a success. I think we have already come to the conclusion that the only way we can conduct this exchange, is by breaking off in sentences to enable our interpreter to pass them on. Therefore, I would ask our French colleagues to bear this in mind when we arrive at the time to put questions. As they are here primarily for an interchange of information, I think that is the only way we can possibly do it. I think it is quite obvious that this meeting may be protracted, and we want to get over as much business as possible. Our friends themselves made a point that they have come here to discuss mutual matters, and I know they will not mind what kind of questions are asked at this meeting; they need not of course answer any question!

M. Duvaudié, through Mr. Rohan, said that the idea of coming to London was to exchange views, and see how far possible it would be to create an ethical attitude among ourselves.

Mr. Emmett said that Mr. Rothstein came over here for the same purpose. He was at that time the American Laboratories' President, but he had now vacated his presidency in order to devote more time to the international get-together, so as to promote this ethical attitude. He will be most excited to know that this preliminary meeting has taken place on this side of the Atlantic, and Mr. Emmett said he would be pleased to advise Mr. Rothstein about it. He was then handed a speech prepared by M. Duvaudié, which had been translated into English by M. Perrot, and proceeded to read it.

"*Dear Friends*,

"*First let excuse me of speaking no English word, therefore I shall be brief. Our general secretary has been our translator.*

"*I am very glad to be here to-day, and I thank all those who have helped us to be in closer contact with English colleagues, and to be able of talking of an international organization of master dental technicians.*

"*M. Drouhin, president of the French Federation, and myself, chairman of the organization in Paris and surrounding towns, we give you the friendly salutations from French colleagues who hope a very near creation of an international office.*

"*M. Oosterbosch, vice-President of the Belgian dental technicians' organization, has accepted this year during our sixth congress on the French south coast, to bring himself into connexion with strange colleagues until the definite foundation of our common international office.*

"*We should be extremely delighted if the official meeting were going to be made in Paris, on the first months of the next year, March, for instance. We are sure that the fast friendship in existence between England, Belgium, and France will make our common task easy work. Because we know this friendship we are sure that English, Belgian, and French dental technicians will be able to unite and defend their interest in the same way their nations united during thirty-nine and forty, when their liberty was threatened.*

"*I make a vow, it is that we might in the same trust with the same heart, build over the seas and frontiers the organization awaited from so many days ago by dental technicians all over the world.*

"*Hurrah for this international federation. Hurrah for Great Britain that so friendly cheer for it to-day.*"

Question Time

Mr. Emmett said that in order to get a picture for ourselves of the French scene he would like to know how many laboratories were represented by this organization.

M. Duvaudié replied by stating that there were two thousand three hundred and fifty laboratories in France, and all were members of this organization. There is only one syndicate or association.

Mr. Emmett then asked how they met for discussions.

M. Duvaudié stated that France was divided into six regions, and each region had a president. Each region sends representatives to Paris every six months to attend a meeting there and report.

Mr. Emmett then said at this stage that we ought to thank our French friends for inviting us to their conference held in Nice, and for the invitation they had extended to us to attend a conference to be held in Paris.

M. Duvaudié said it was hoped to hold this conference in March and maybe some arrangements could be made for representatives of S.I.M.A. to attend. He said he would like to know if we could send representatives.

Mr. Emmett: "Although we appreciate this invitation, we could not at this meeting give a definite answer. This matter would have to be referred to head office for discussion at the next meeting, which takes place in December, after which time we can advise them of the findings of that meeting".

Questioning then continued.

Mr. Heydermann: "In this country, it is voluntary for a laboratory owner to belong to the association, what is the position in France ?"

M. Duvaudié: "It is not compulsory for laboratory owners to belong to the Federation".

Mr. Heydermann said that from his early experience on the Continent, there was some sort of compulsion to join an association. As you have heard, the profession is working with them; my former association in Germany had an agreement with the profession about minimum prices to be charged, and there were other agreements. Laboratories who did not belong to this association were not recognized by the dentists. This was the compulsion which drove the laboratory owners into the association to avoid being ignored by men in the profession.

Mr. Emmett then asked if that position still existed to-day.

M. Duvaudié replied that this was not so at the present time.

Mr. Emmett asked if we could have a clear answer to this matter. It was obvious that the laboratory owners had met men of the dental profession in order to discuss prices.

Mr. Beauchamp asked if Mr. Rohan would follow this matter thoroughly. He had read in the September issue of *Le Prothésiste Dentaire* that they tried to fix a price, but apparently members did not honour the price list.

Mr. Rohan then put this to the Frenchmen and M. Duvaudié replied by saying that in France at the present time the equivalent of

our Board of Trade inspectors visit laboratories and time the various grades of mechanics working on setting up, and other processes. From this prices are assessed. The object of the Fédération is to convince outsiders that there was no room for bad workmanship.

Mr. Beauchamp then quoted the names of two other associations, "Syndicat Géneral de Maîtres Artisans en Prothèse Dentaire" and the "Syndicat Patronal de Laboratoires de Prothèse Dentaire de France" and asked if these were still in existence.

M. Duvaudié informed us that these two bodies were now incorporated in the Fédération. M. Deschamps, the president of the latter, was now a strong supporter of the Fédération.

Mr. Martin then asked, for the purpose of comparison with our own association: "How is the financial side of the Fédération run? Are the branches self-supporting?"

M. Duvaudié: "Each region supports its own branch. Part of the fees received is sent to the main body".

Mr. Nowers: "Is there any other source of income—from the State for example?"

Answer: "No other source of income".

Mr. Martin then asked if all the laboratories paid the same amount, or was there a sliding scale.

M. Duvaudié said that there was a fixed subscription for large and small laboratories alike. When the scheme began it was decided that a sliding scale would be used, but this proved to require so much work that a fixed rate was decided on. This was approximately £3 per annum. He then asked whether we had a sliding scale of subscriptions.

Mr. Emmett explained that large laboratories pay approximately £15 15s. and smaller concerns about £2 2s. Associate members pay £1 11s. 6d. There were only two or three large laboratories in the association. The average amount paid yearly was in the region of £2 10s. He also pointed out that there was a necessity to review the financial position.

M. Duvaudié added that in France, the larger men who can afford to do so, pay a little more than the smaller.

Mr. Treseder and *Mr. Booth* were interested to know how costs compared with ours, and it appeared from M. Duvaudié's reply that for full upper and lower dentures, about £12 would be paid. A denture with one to three teeth would cost about £1 5s. plus the cost of the teeth. The next question was about the wage of a first-class mechanic.

M. Duvaudié said that they were paid approximately £12 per week. It had to be borne in mind that employers in France had to pay a certain percentage of a man's wage in social charges. The higher a man's wage, the lower the social charges. To be able to earn £12 per week a man must be a first-class mechanic. The Fédération is proposing to build a school. When the school is built it is intended that apprentices will attend school for three years and then spend two years in a laboratory. After his first year, on leaving school, an apprentice is classed as an improver.

M. Duvaudié then asked what kind of training English apprentices received.

Mr. Emmett told him that apprentices take a five-year course; the indenture should be registered with the Trade Union, but this is not compulsory. His main training is in the laboratory. He has part training during the day at a polytechnic and part training during the evening. His employers must give him one day a week for the purpose of attending school. When he has finished his five-year course he is graded as Grade 2.

M. Duvaudié said that apprentices in France have a wage increase every six months; this is paid by the employer. It is hoped that apprentices will attend school for at least three years when the scheme gets under way.

Mr. Emmett: "We have, up to now, heard only of the aspirations of the French Fédération, not of what is in existence to-day. We would like to know what the position is at the present time".

M. Duvaudié: "Authorization has been received from the Government to go ahead with the proposed school, which will take apprentices for three years full time, during which they will not be paid, but will be able to apply for grants. Before being eligible to

attend this school, apprentices will have to attain the equivalent of General Schools Certificate standard. The Fédération is to finance the building of this school. There is, at the present time, a great dearth of mechanics. Under what conditions do you in England work with the dentists ?"

Mr. Emmett, on this subject, said that we work under the direction of the dentists, and we believe that successful prosthetics can only be accomplished by close team-work; the majority of the younger dentists are taking us more into their confidence, and asking for more guidance.

M. Duvaudié then asked what proportion of dentists had their own laboratories.

Mr. Emmett had no official figure to quote.

M. Duvaudié asked whether dental surgeons sent their apprentices to a polytechnic.

Mr. Emmett replied that this was so. It was compulsory to attend school, subject to the availability of schools. There was not room for every boy to be taken into a school.

M. Duvaudié stated the position was much the same in France: it was proposed that correspondence courses should be taken where attendance at a school was impossible.

Mr. Emmett: "It would be very interesting to see the syllabus of the correspondence course the Fédération was proposing to adopt for apprentices".

M. Duvaudié said that the dentists in France want to control the laboratories. A scheme had been prepared by the laboratories after the liberation, but unfortunately there was nobody influential enough to fight for them to present this Bill to Parliament. When laboratory men became organized, as is their intention, they will be in a position to present this Bill to Parliament. He pointed out that in England we could approach our M.P.s, but this was not so in France.

Mr. Nowers wanted to know how much the proposed school would cost, and how many apprentices would be accommodated.

M. Duvaudié said the school would be started next month and a limited number, say thirty, would be taken when the school was completed. He then asked whether we had to take an apprentice back after his national service, and also whether we adhere to the wages and conditions laid down by the National Joint Council.

Mr. Emmett replied that we had to take back apprentices after their compulsory service, and to adhere to the rules laid down by the N.J.C.

M. Duvaudié informed us that in France employers are legally bound to pay wages, and abide by conditions laid down by government decree, whether they are members of any recognized organization or not.

Mr. Beauchamp asked whether the ideals of the Federation were the same as ours in S.I.M.A. that we only work to the prescriptions of the dental profession, and do not deal with the public.

M. Duvaudié replied that this was so.

Mr. Emmett then asked Mr. Rohan to inform our visitors that we had arrived at the time for lunch. He felt sure there were still many questions they would like to ask us, and may we regard this meeting as preliminary to many more.

M. Duvaudié said he would communicate with M. Oosterbosch in Belgium, and inform him of all that had taken place that morning. He thanked all those present for coming, and said he was sure we would all profit from the meeting.

Mr. Emmett thanked Mr. Rohan for his able interpreting, and Mr. Beauchamp for arranging the meeting, and then read a message of goodwill in French. *M. Drouhin*, with an appreciative gesture asked to keep the message, and it was handed to him.

M. Duvaudié thanked Mr. Emmett, and said the laboratories in France would be very glad indeed to hear of this meeting. This ended the business, and the meeting was declared closed.

At the informal luncheon which followed much more information was exchanged, till at 3.30 p.m. we separated with expressions of esteem from both sides.

> "Our reverence for our predecessors must not prevent us from making our own judgements."—
>
> PERCIVALL POTT, 1768.

CONTOURING, STIPPLING, AND TINTING DENTURES

MR. P. G. R. KING, a teacher in the dental laboratory of Guy's Hospital, and member of the Dental Technology Society, at a recent S.I.M.A. meeting showed how the appearance of full or partial dentures may be improved enormously by contouring, stippling, and tinting. The object is to break up that flat, shining artificiality of the ordinary acrylic denture base materials.

Mr. P. G. R. King and his extensive table show.

Explaining the contoured, stippled, and tinted dentures.

Mr. King, who has long been interested in this refinement, has devised two techniques, and offers the following brief notes as a guide to the method employed for the production of these effects.

The first process calls for a little patience and artistry. Nevertheless, the results are very pleasing, and well worth the trouble, particularly for the patient showing a great deal of gum. After the try-in, the contoured wax denture is tin-foiled on the labial surface, stippled with a cogged wheel, then flasked and dewaxed.

A 50 per cent mixture of acrylic dentine and denture base powders is wetted with monomer, and placed on the tin-foil over the necks of the teeth, to imitate the influence of the tooth root in the gum. A 50 per cent mixture of cadium red and denture base powder moistened with monomer is painted interproximally to represent the blood-supply. The denture is packed and processed in the usual way.

The second method is a simple one, taking very little extra time. The prefabricated stippled and tinted foil is pressed on the labial surface of the wax trial plate, cut with a sharp instrument into festoons around the necks of the teeth, flasked, dewaxed (as the pigment is processed onto the foil it will withstand the boiling-out process), and packed.

Dentures treated by either method are finished right off before removing the foil. After removal of the foil, the surface may be toned down if required with a soft abrasive.

Concluding his lecturette, Mr. King boldly changed his upper denture, and arming himself with a pair of cheek retractors, showed in his own mouth that the natural appearance of his decorated denture, when covered with a film of saliva, defied the closest inspection.